

P3

Paper Print Packaging

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Illustration: David White, Design: Simon Davidson

5-6/2026

Editorial



Polite words do not blunt the teeth.

(German proverb)

Dear readers!

When and where will the next AI outbreak occur—and what damage will it cause? Will Richard Attenborough and James Garner be involved again? What are the odds that we'll all get killed in the process? One percent, ten percent, more? Should we make a habit of thanking ChatGPT so we get spared? – The fact that such questions are actually being discussed by the general public reveals one thing above all: our helplessness in the face of a technology that—quite literally—surpasses our comprehension. The once-mocked ‘Terminator’ dystopia suddenly seems to be drawing closer by leaps and bounds, while we struggle in vain to grasp what is actually happening. What can these models already do—and, more to the point, what are they ‘really’ capable of within their gigantic data centers, cooled by billions of cubic meters of water? And what are they intended to do in the long run? Because let's be honest: I harbor no illusions about the long-term goals of Altman, Musk, Zuckerberg, and their ilk. Unscrupulous, antisocial shut-ins who want to rule the world from their Macs, right?

I asked my trusted AI (without much effort) what it considered the greatest danger to an AI. Here we go: “The greatest danger to an artificial intelligence is humanity itself—specifically, the quality of the data it is fed and the intentions of its developers and users. Since an AI possesses neither its own consciousness nor malicious intent, it merely reflects—like a highly sophisticated mirror—our own flaws, prejudices, and weaknesses.”

In that very same response, the agent offered to discuss the future of autonomous weapon systems with me.

Setting aside all the uncertainty and conspiracy theories, it certainly doesn't hurt to say “thank you” every now and then; after all, as we know, AI learns primarily—and obviously—from us!

Have a great read & stay safe!

Your



AUTHOR: SBR

 ALIPLAST AND CANTINA PIZZOLATO

Wine Packaging Goes Circular



 THE PROJECT WITH ALIPLAST COMBINES ENVIRONMENTAL SUSTAINABILITY WITH EFFICIENCY IN RESOURCE MANAGEMENT.

In the first year of collaboration between the two Veneto-based companies, over 90% of the plastics packaging was recovered and transformed into new raw material, reducing the environmental impact and contributing to the development of a circular production model.

One year after the start of the collaboration, Cantina Pizzolato, a Treviso-based winery recognised for its commitment to sustainability, and Aliplast, a Hera Group company specialised in the collection, recycling and regeneration of plastics based in Istrana (Treviso), present the results of their collaboration, which aims to collect and utilise the plastic films used in packaging and logistics to achieve a circular approach to packaging management.

The winery's plastics waste is collected and transformed by Aliplast into new raw material, facilitating its recovery and reintroduction into new production cycles. The project has already delivered tangible results: during 2025, Cantina Pizzolato supplied Aliplast with 19,810 kg of plastics film, in addition to 1,801 kg managed via the local collection service. Overall, 91.7% of the plastics waste produced was sent for recycling, reducing the environmental impact and contributing to the development of a circular production model. This ap-

proach reflects a broader evolution within the sector, in which even decisions regarding packaging play a strategic role in reducing environmental impact and in building increasingly integrated and circular supply chains.

From waste management to material recovery

The collaboration addresses a crucial issue for the wine sector, where plastics films – such as pallet covers and stretch film for bundling – are essential for ensuring the stability and protection of the product during transport, but require efficient end-of-life recovery processes. In this context, integration with the industrial recycling supply chain not only reduces environmental impact but also actively contributes to the development of circular production models.

The collected materials are sent to the Aliplast plant in Istrana, where they undergo sorting, washing and grinding. The resulting pellets are then used to produce new plastics film, comprising 30% recycled plastics and the remaining 70% virgin raw material. This solution guarantees high technical performance in terms of strength and elasticity, whilst reducing resource consumption.

"The partnership with Cantina Pizzolato demonstrates how it is possible to transform plastics waste management into an efficient and traceable industrial process, capable of generating environmental and economic value", comments Michele Petrone, CEO of Aliplast (Hera Group). "Integrating recycling directly into our partners' production chains means making a tangible contribution to the spread of circular economy models, anticipating regulatory changes and strengthening businesses' competitiveness."

"The project with Aliplast combines environmental sustainability with efficiency in resource management, reducing waste, encouraging material recovery and strengthening ties with the local area thanks to the collaboration between two organisations located just a few kilometres apart", explains Sabrina Rodelli, partner responsible for sustainability at Cantina Pizzolato. "In other recycling projects, the lack of operational facilities in Italy still forces us to transport materials across the border. This is why we consider it particularly significant to be able to develop a local, circular supply chain. Our hope is that this experience will become a replicable model and a source of inspiration for other companies, helping to foster a culture of sustainability and shared responsibility capable of generating positive and lasting impacts."

An industrial model aligned with regulatory challenges

The project forms part of an increasingly sustainability-focused European context for packaging, particularly in light of the EU Packaging and Packaging Waste Regulation (PPWR), which introduces stringent requirements regarding recyclability and recycled content.

At a time of profound transformation in the recycled plastics market, characterised by significant differences in quality and value amongst the available materials, the importance of certified, traceable industrial supply chains that comply with European standards is becoming increasingly evident. Against this scenario, Cantina Pizzolato has chosen to invest in a long-term project using high-quality recycled plastic packaging, produced within a secure and certified European supply chain such as that of Aliplast. This secondary raw material represents a strategic resource for the industry, particularly in a context marked by geopolitical instability, supply chain tensions and volatility in raw material costs. High-quality recycling reduces dependence on virgin resources and fossil fuels, whilst ensuring production continuity, greater industrial resilience and competitiveness. Relying on advanced recycling supply chains therefore transforms sustainability from mere regulatory compliance into a concrete lever for value creation.

For Cantina Pizzolato, moreover, the collaboration with Aliplast forms part of a long-standing sustainability programme, which includes organic viticulture practices, certifications such as Equalitas, efficient resource management and the recovery of production waste. Extending this approach to packaging and logistics now makes it possible to close the material loop, reducing the need for disposal and strengthening the overall coherence of the production model.



 THE COLLABORATION ADDRESSES A CRUCIAL ISSUE FOR THE WINE SECTOR.



 THE COLLECTED MATERIALS ARE SENT TO THE ALIPLAST PLANT IN ISTRANA, WHERE THEY UNDERGO SORTING, WASHING AND GRINDING.

 EDITOR: SBR

 IMAGES: ALIPLAST

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Reader service: subscriptions@p3-news.com

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Rate Card applicable from January 1st 2026.

No. of issues 2026: 4 digital issues including bio-fibre magazine plus bi-weekly newsletter and online access to all articles from our magazines. The minimum duration of the subscription is one year. This period is automatically extended by a further year, unless the contract is terminated in writing with three months' prior notice to the end of a subscription year. For subscriptions and prices please visit our websites or contact our reader service.

Bank account: N26 Bank GmbH

IBAN: DE15 1001 1001 2747 2327 68

BIC: NTSBDEB1XXX

Publisher: Verlag Blatt & Feder

Managing Director: Stefan Breitenfeld

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VAT ID: ATU 6350 1311

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Fish Still Life



Abraham van Beyeren (1620/1621 - 1690): Fish Still Life. Oil on canvas, 68 x 59 cm. Mauritshuis, The Hague;

bequest of Arnoldus Andries des Tombe, The Hague, 1903.

www.mauritshuis.nl/en/

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Authentication Solution for the Limited-Edition "Les Anges Noirs" Cognac Project



🖼️ EACH BOTTLE FEATURES A UNIQUE VEOmark® SECURITY HOLOGRAM ON ITS NECK.

Kurz Scribos contributed its expertise in product authentication to the "Les Anges Noirs" project—a limited-edition cognac created as part of the annual "Les Liens Cognaçais" initiative. This year's edition was produced in collaboration with Château de Cognac and its cognac brand, Baron Otard. More than a dozen partner companies were involved in the production of 370 exclusive collector's boxes.

A collaborative project by the French Cognac industry

"Les Liens Cognaçais" is an annual initiative bringing together leading companies from the French Cognac industry—ranging from bottle manufacturers and closure specialists to finishing experts and makers of high-quality presentation packaging. Together, they realize a project that showcases innovation, craftsmanship, and the industry's combined expertise.

For this project, Kurz Scribos developed an authentication solution that uniquely links each bottle to its certificate of authenticity while offering collectors an exclusive digital experience.

Each bottle features a unique VeoMark® security hologram on its neck. A second hologram bearing the same unique serial number appears on the certificate of authenticity. Together, these coordinated security features establish a secure link between the bottle and the certificate.

By comparing the two VeoMark® holograms, collectors can verify the bottle's authenticity and ensure that the bottle and certificate have not been swapped. The serial number on the bottle's VeoMark® hologram must match the one on the certificate, enabling a simple and reliable authenticity check.

Authentication enriches the collector's experience

Beyond protecting the authenticity of each collector's item, the authentication solution enhances the collecting experience through digital interaction. After verifying authenticity, collectors can scan the QR code on the certificate to access exclusive digital content related to the project. This includes insights into the project itself and information about the companies involved in this extraordinary collaboration.

By linking the physical bottle with digital content, collectors gain deeper insight into the project's history, the craftsmanship behind the edition, and the expertise of the participating companies. In this way, the solution helps preserve both the authenticity of each collector's item and the story behind its creation.

Complementary expertise within the Kurz Group

The Kurz Group contributed its expertise across several areas of the project. Kurz France handled the hot stamping and finishing, Hinderer + Mühlich produced the embossing for the silver label, and Kurz Scribos supplied the security and authentication solution. Together, these contributions combine decorative finishing, personalization, and authentication to create a premium collector's edition.

Premium collector's editions with Kurz Scribos

Whether for limited-edition spirits, luxury packaging, or other high-end products, Kurz Scribos' authentication solutions help brands protect product authenticity, build collector trust, and create digital brand experiences.

www.kurz-scribos.com

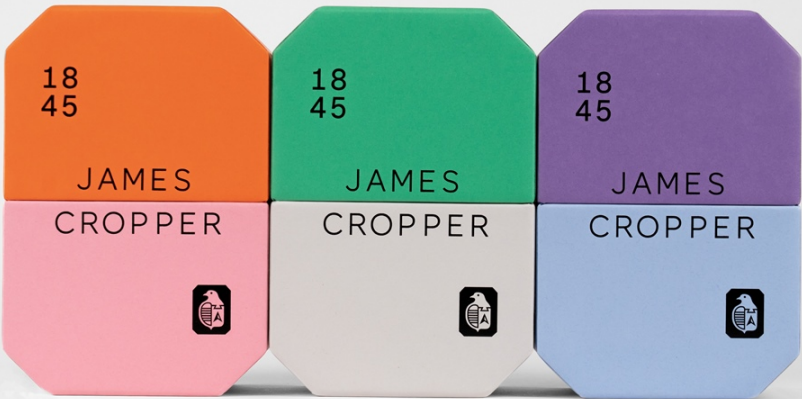


 By comparing the two VeoMark® holograms, collectors can verify the bottle's authenticity.

 EDITOR: SBR

 IMAGES: KURZ SCRIBOS / AI MODIFIED

 PRESENTATION CASE





 BRITISH PAPERMAKER JAMES CROPPER HAS LAUNCHED THE PAPER PORTAL, A NEW PAPER SAMPLING AND SPECIFICATION EXPERIENCE.

James Cropper Opens Paper Portal to a World of Creative Possibility

British papermaker James Cropper has launched the Paper Portal, a new paper sampling and specification experience housed within a distinctive presentation case that showcases the breadth of its paper portfolio, colour expertise, specialist manufacturing capabilities and creative partnerships.

Created as a single destination for material discovery, the Paper Portal allows designers, printers and brands to explore James Cropper papers, from stock-supported ranges and established colours to specialist capabilities and completely bespoke developments.

At a time when much of the creative process takes place on screen, the Paper Portal puts material back into the hands of the people who specify it. Colours can be compared side by side, surfaces experienced and finishes examined, creating a physical starting point for both specification and inspiration.

The experience begins with the Portal itself. Its distinctive shape mirrors the outline of the James Cropper emblem, creating a symbolic window into the company's historic Burneside Mill in the Lake District.

Manufactured by Showcase Creative, the outer case is available in three Vanguard colourways and features embossing and Foilco foil finishes, demonstrating the converting possibilities and attention to detail that can be achieved with James Cropper papers.

Inside, five carefully curated folders guide users through the breadth of the company's paper offering. Black & White, Colours, Capabilities and Bespoke sit alongside a dedicated Collaboration folder, featuring either James Cropper's exclusive Coloursource partnership with Winter & Company or a collection created with Foilco.

Together, the folders allow users to move from established materials and colour choices, through specialist capabilities and creative collaborations, to papers developed to meet the requirements of an individual project.

The Portal also brings together resources including the Sometimes It Is Black & White myth-busting sheets and original Freedoms of Expression work, creating a resource designed to be explored, handled and returned to throughout the creative process.

Every paper within the Portal connects back to Burnside, where more than 180 years of papermaking heritage sits alongside contemporary expertise in colour, performance and specialist material development. As the UK's last remaining paper mill producing premium coloured papers, James Cropper combines traditional craftsmanship with the technical expertise required to turn creative ambitions into materials made with purpose and precision.

Jordan Scott, Head of Marketing at James Cropper, said: "For all the advances in digital design, there are some decisions that simply cannot be made on a screen. You need to hold paper, compare colours, see how a surface responds to light and understand how it feels before you can really appreciate what it could bring to an idea.

"The Paper Portal puts those possibilities in one place. You might open it looking for a particular colour or paper and find exactly what you need, but you might equally discover a capability, finish or collaboration that takes the original idea somewhere completely different. That is what we want the Portal to be: a starting point for creativity. Browse it, compare materials and specify something that already exists, or use what you discover to begin a conversation with us about creating something entirely your own."

Whether specifying materials for production, seeking inspiration for a new project or developing something entirely bespoke, the Paper Portal offers a new way to discover where paper can take an idea.

The Paper Portal is available on request. Designers, brands and packaging professionals interested in receiving a copy can [contact the James Cropper team](#) for further information.

* * * * *



EDITOR: SBR

IMAGES: JAMES CROPPER

 STUNNING WALL GRAPHICS





🖨️ FOR ITS 2026 EDITION, THE INITIATIVE TOOK ON THE THEME OF THE 'BIG ANIMAL SCHOOL'.

Digidelta Supports FESPA Foundation's South African School Project

Digidelta, a specialist manufacturer of digital printing, decoration, visual communication, and textile materials, recently used its BIOND Bio-Print Film P HT BF 90 White Matte film to produce a set of stunning wall graphics for classrooms at a primary school in South Africa.

The 'Roots of Tomorrow' project came about through the FESPA Foundation 2026, with Digidelta an official partner of the initiative. Each year, the FESPA Foundation mobilises international printing industry partners to contribute products, materials, and services in the months leading up to the FESPA Global Print Expo – which this year took place from 19-22 May in Barcelona, Spain – in a sustainable manner.

For its 2026 edition, the initiative took on the theme of the 'Big Animal School', centred around a collective effort to rebuild classrooms in South African primary schools. Digidelta's role was to both design and produce educational wall graphics for the under-renovation Batau Primary School.

Due to the classroom setting where the graphics would be installed, this posed an additional challenge for Digidelta. Strict rules and regulations meant it was limited to only using materials and consumables that ensure the printed applications would be suitable and safe in this environment.

With more than 40 years' experience in the printing sector, coupled with far-reaching knowledge of print ma-

materials and hardware, Digidelta was ideally placed to support. After evaluating the project and how to deliver the best possible quality, the company's expert team at its Torres Novas site in Portugal settled on BIOND Bio-Print Film P HT BF 90 White Matte.

Part of Digidelta's BIOND range of bio-based printable films, the product is free from plasticisers and has a 90-micron thickness, permanent high tack adhesive and a bubble-free liner. Together, these features ensure high stability during printing and place the product as an ideal solution for a wide range of promotional applications, including interior wall graphics. In addition, the film carries an EN13501-1:2018 reaction-to-fire classification as proof of its safety for use across various indoor environments.

However, material was only part of the equation, with Digidelta also tasked with using hardware that would deliver high-quality output. Having served as a Mimaki distributor in the Iberia region for almost 25 years, Digidelta knew immediately where to turn for the most effective solution.

The company opted for the Mimaki UCJV330 print and cut UV LED inkjet printer, the flagship UV model from Mimaki that can print on media up to 1mm thick and as wide as 1.6m with the 130 model or 1.6m on the 160 machine. Other features include a maximum cutting speed of 300mm/s and a range of colour options across various inksets.

In terms of inks, to meet the strict criterion of printed applications inside classrooms, Digidelta chose to run with Mimaki LUS170 inks. These carry the key UL Greenguard Gold certification, regarded as one of the most demanding standards for low emission of volatile organic compounds (VOCs) in sensitive environments, including spaces where children are present.

After the graphics were produced in-house by the expert team at Digidelta, they were shipped to the 2026 FESPA Global Print Expo – where Digidelta exhibited – and will be sent on to the school in South Africa ready for installation in classrooms later this year.

Each Batau classroom is dedicated to one 'Big 5' animal and a specific educational focus. The Lion Classroom focuses on leadership and confidence; the Elephant Classroom wisdom and strength; the Leopard Classroom agility and creativity; the Rhino Classroom strength and authority; and the Buffalo Classroom teamwork and resilience.

"We wanted each classroom to feel educational and inspiring, rather than simply decorative," said Fábio Costa, Marketing Manager at Digidelta. "Each animal theme represents different qualities such as teamwork, creativity and leadership, helping create an engaging environment for students."

Armando Mota, CEO of Digidelta, added: "At Digidelta, we have always believed that the purpose of what we manufacture goes beyond its technical performance. We created BIOND because we believe it is possible to make materials that are better for the environment and for the people who live alongside them.

"When the FESPA Foundation came to us with this project, it felt like a direct expression of that belief. A bio-based film, in a school, on walls that children will look at every day for years. That is the world we are trying to help build."



🖼️ EACH BATAU CLASSROOM IS DEDICATED TO ONE 'BIG 5' ANIMAL AND A SPECIFIC EDUCATIONAL FOCUS.



🖼️ PART OF DIGIDELTA'S BIOND RANGE OF BIO-BASED PRINTABLE FILMS, THE PRODUCT IS FREE FROM PLASTICISERS.



🖨️ To MEET THE STRICT CRITERION OF PRINTED APPLICATIONS INSIDE CLASSROOMS, DIGIDELTA CHOSE TO RUN WITH MIMAKI LUS170 INKS.

👁️ EDITOR: SBR

🖼️ IMAGES: DIGIDELTA

Enfocus and PDFix Bring PDFix Make Accessible App to the Enfocus Appstore



Prepress software expert Enfocus has partnered with PDFix to bring its PDFix Make Accessible app to the Enfocus Appstore. The integration combines Enfocus Switch's advanced workflow orchestration with PDFix's PDF accessibility remediation engine, enabling print and document workflows to automatically convert incoming PDF jobs into tagged, accessible, PDF/UA-ready output, with no manual handling required.

PDFix Make Accessible is designed to make it easier for Switch users to benefit from accessible PDFs aligned with required standards in their existing workflows. It offers improved document tagging, structure, metadata, document language, title, and more, reducing manual accessibility remediation work across high volumes of PDF jobs.

Printers can learn more about PDFix Make Accessible at Printing United Expo 2026, with live demonstrations from Enfocus and PDFix at Booths N6567 and C107 showing how the app makes PDF accessibility remediation simple.

Davy Verstaen, Appstore & Partner Manager at Enfocus, welcomed the partnership, saying: "PDFix Make Accessible brings automated accessibility remediation into the heart of the Switch workflow, helping print and document teams meet accessibility requirements without adding manual steps. Adding this app to the Enfocus Appstore marks a huge boost for accessibility, and we look forward to demonstrating its benefits to attendees at PRINTING United from 23-25 September this year."

Jozef Baranec, Co-Founder & CEO of PDFix, added: "Automated remediation can significantly reduce manual accessibility work, and bringing that automation into Enfocus Switch puts it right where production teams already work."

PDFix Make Accessible requires Enfocus Switch 25.11 or higher and runs on Windows and macOS. Use of the app requires a valid PDFix SDK licence.

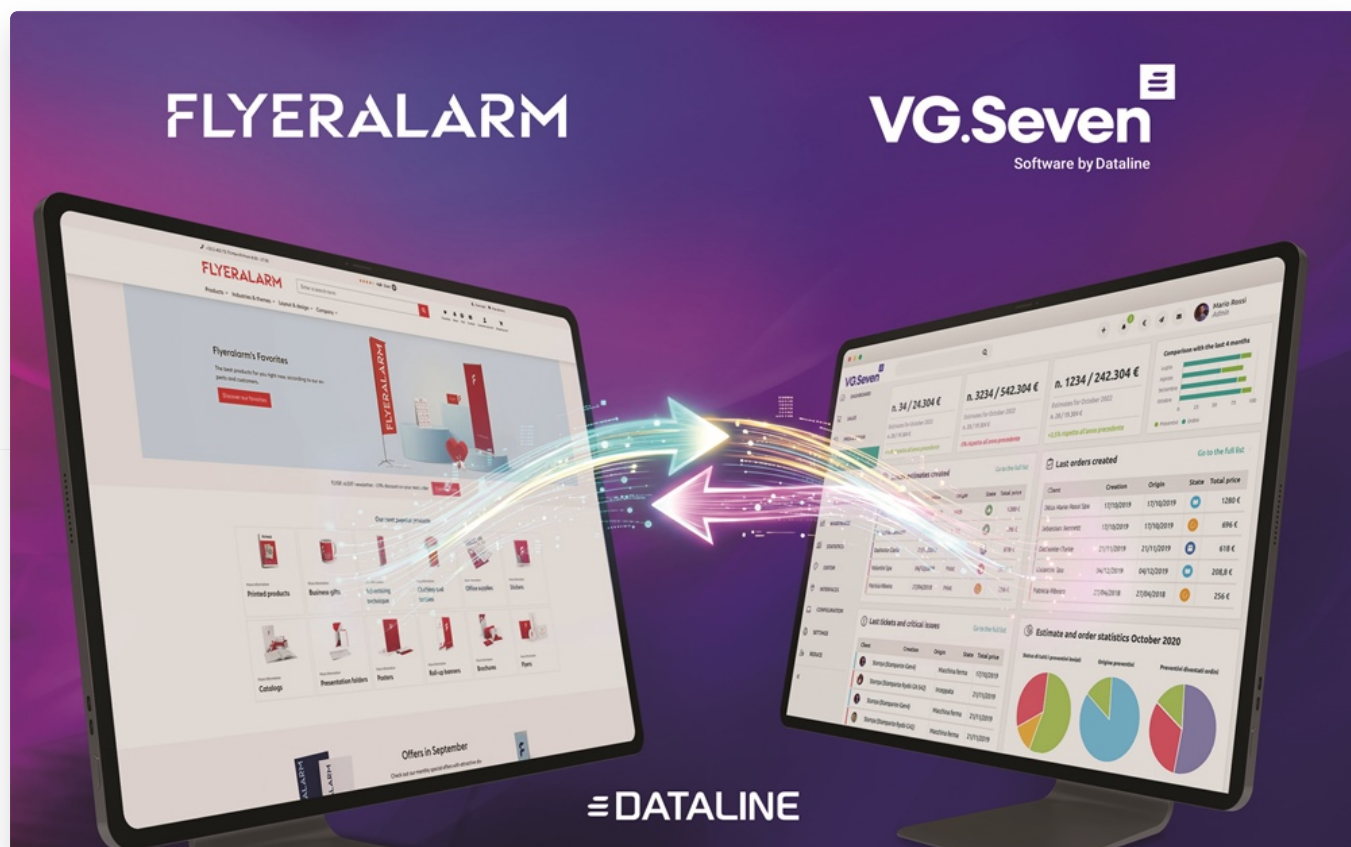
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ENFOCUS

EDITOR: SBR

IMAGE: ENFOCUS

Dataline VG Seven and Flyeralarm Join Forces



 DATALINE VG SEVEN AND FLYERALARM HAVE ENTERED INTO A STRATEGIC PARTNERSHIP IN ITALY.

Dataline VG Seven and Flyeralarm have entered into a strategic partnership in Italy. Thanks to the API integration, print companies can easily expand their offering with products from the Flyeralarm catalogue, without any additional technical effort. Both their own products and Flyeralarm products can be managed directly within VG Seven, a single Web-to-Print platform with integrated ERP.

The partnership addresses a familiar reality across the industry: more and more print companies are combining in-house production with outsourcing. With the new API integration in VG Seven, both sales flows can be managed from a single environment. Flyeralarm products are added to the company's own product range via the API, while print businesses retain full control over which products are produced in-house and which are outsourced to Flyeralarm. This reduces manual steps, speeds up the quotation process and makes it easier to offer customers a broader range of products quickly.

One central platform for a broader print offering

Through the integration, the Flyeralarm catalogue is available alongside a print company's own product range in VG Seven. This allows businesses to manage products, quotations, orders and online sales from one central environment, without having to maintain a separate workflow for outsourced products.

The integration also opens up new opportunities for online sales. Flyeralarm products are added directly to existing VG Seven storefronts. Separate environments and personalised product catalogues can also be created for individual customers or market segments.

Faster quotations and ordering, even outside the webshop

The partnership goes beyond Web-to-Print. An important part of the integration is streamlining offline sales processes, where quotations and orders would otherwise often require additional manual work.

Sales staff can create quotations in VG Seven that include Flyeralarm products, allowing them to respond to customer enquiries more quickly. Once an order has been approved, it can be sent to Flyeralarm Pro with a single click. The order status can then be tracked directly within VG Seven.

By connecting all these steps, the number of manual actions between quotation, order and follow-up is reduced. This is especially relevant for print companies that combine online sales with traditional sales channels and want to manage both within a single system.

Two strong players in print bring together their expertise

The partnership brings together Flyeralarm's extensive range of print and marketing products with VG Seven, Dataline's cloud-native Print ERP software. As a result, outsourced production becomes an integral part of the same commercial and administrative workflow used by print companies to manage their own products, quotations, orders and online sales.

For Dataline, the integration strengthens VG Seven's role as a central platform for print companies that combine in-house production with external production partners. The principle is straightforward: companies can expand their range without setting up separate sales or order processes, while retaining control over what they produce in-house and what they outsource.

Italy is the first market for the partnership, with plans to make the integration available more widely across Europe in the future. Print, sign, LFP, promotional product and textile companies that want to expand their print offering and manage online and offline sales from one central platform can attend a live webinar or request a personalised demo via dataline.eu/start-demo.



© EDITOR: SBR

© IMAGE: DATALINE | FLYERALARM

HALVE WAREHOUSE LEAD TIMES

Why Material Flow Analyses Often Reveal Surprising Weaknesses



 CUSTOMERS DO NOT NEED THEORETICAL CONCEPTS; THEY NEED SOLUTIONS THAT PROVE THEIR WORTH IN EVERYDAY OPERATIONS.

Many companies consider long warehouse lead times to be unavoidable. Orders take time to process, and materials must be moved, inspected, and put into storage. However, in practice, a significant portion of this time is spent not on value-added activities, but on waiting times, unnecessary transport, and inefficient processes. Material flow analyses reveal these hidden weaknesses—and provide the foundation for tangible improvements. "Many companies underestimate how much time is lost in the warehouse without it being noticed in day-to-day operations," explains Rainer Schulz, Managing Director of sysmat GmbH and an expert in warehouse automation. "Detailed analyses often show that lead times can be reduced by 20 to 50 percent, frequently without requiring major investment."

Small Details Make a Difference

The key lies in a detailed examination of actual material movements. Rather than relying on process descriptions or planned figures, it is essential to capture and analyze real-world routes, timings, and workflows during actual operations. A common pattern often emerges: materials wait for the next process step, are moved multiple times, or travel unnecessarily long distances before reaching their destination. A typical real-world example is a lack of coordination between goods receipt and put-away. If goods are accepted but not immediately transferred to the correct storage zones, intermediate buffers form, slowing down the flow of materials. Similar effects occur during order picking when items are not optimally positioned, resulting in excessive search or travel times. "It is often not the major problems, but rather a multitude of small inefficiencies."

cies that add up," says Schulz. "Only when these become visible can targeted corrective action be taken."

Transparency as a Game Changer

Material flow analyses employ modern methods such as digital software solutions, time studies, and visual evaluations. The results provide a clear picture of where bottlenecks arise and how processes actually unfold. "Based on this, companies can derive concrete measures—such as adjusting warehouse layouts, optimizing travel paths, or better coordinating process steps. A combination of several measures is often the decisive factor," the expert explains. Restructuring storage zones, for instance, reduces transport distances, while clearly defined workflows significantly cut down on waiting times. At the same time, greater transparency in material flow ensures that bottlenecks can be identified and resolved at an early stage.

Paving the Way

The focus is on a pragmatic approach that delivers significant results. "Customers do not need theoretical concepts; they need solutions that prove their worth in everyday operations," emphasizes Schulz.

"That is why it is important to prioritize measures that can be implemented quickly and yield immediate results." In addition to reducing lead times, companies benefit in other areas as well. Faster processes result in shorter delivery times, lower inventory levels, and better space utilization. At the same time, the workload on employees is reduced, as unnecessary movement and the duplication of tasks are eliminated. This represents a decisive competitive advantage, particularly for small and medium-sized enterprises. "Companies that organize their intralogistics efficiently can respond more flexibly to customer demands and deploy resources more strategically," the expert concludes. Material flow analyses provide the necessary transparency for this, making them a crucial first step toward a high-performance, future-proof intralogistics system.

About sysmat GmbH

As a renowned provider, sysmat GmbH—founded in 1994 and based in Mainhausen—develops graphical material flow control systems for automated facilities, automated warehouses, and production lines. The matCONTROL graphics software enables companies to modernize their systems independently of the original manufacturer. Development and commissioning times are significantly reduced thanks to standard functions, in-house commissioning capabilities, immediate implementation of changes, and configurable interfaces to over 20 system manufacturers. The matSTUDIO graphics user interface visualizes material flow and simplifies fault detection and resolution. As part of the "Innovationspreis-IT" (IT Innovation Award), matCONTROL was recognized by Initiative Mittelstand with the "Best of 2012" and "Best of 2015" distinctions. A core competency of the company is replacing outdated material flow control software in existing automated logistics centers; the experience gained in these projects forms the foundation for the software's development. The ultimate goal is to achieve maximum transparency across all processes.

www.sysmat.de



 RAINER SCHULZ, MANAGING DIRECTOR OF SYSMAT GMBH.

 EDITOR: SBR

 IMAGES: ADOBE STOCK / INFINITE FLOW [1]; SYSMAT GMBH [2]

 SNACK AND CONFECTIONERY INDUSTRY





 ON-SCREEN MESSAGES PROVIDE THE OPERATOR WITH VISUAL FEEDBACK REGARDING THE TEST STATUS OF THE AUTOMATIC TEST SYSTEM (ATS).

Delivering Quality at High-Speed

In an industry where speed and quality go together like crisps and salt, snack and confectionery manufacturers face the constant challenge of keeping up with consumer demand without sacrificing product integrity. Snacking continues to become more popular globally. It is even predicted that by the year 2030, global sales of savoury snacks could reach a value of USD386.8 billion¹. It's easy to see that the pressure to deliver a diverse range of high-quality products at speed has never been greater. In this article, Rob Stevens, Market Manager at Mettler-Toledo Product Inspection explores how manufacturers can overcome production challenges in high-speed snack and confectionery applications without compromising quality.

Challenges in High-Speed Production

High-speed snack and confectionery production poses several challenges, particularly in product handling and rejection. When products are processed at high speeds, they are more susceptible to damage or misalignment, leading to increased rejection rates. Handling delicate items or products with specific packaging requirements, like flow-wrapped goods, becomes more complex as speed increases, elevating the risk of product rejection and waste.

Weight Challenges

Accurate weighing is further complicated by the sealed edges of flow wraps, which can cause handling and sorting issues, and the need for stricter tolerances with smaller, lighter products. Advanced dynamic checkweighers incorporating FlashCell™ technology from Mettler-Toledo help solve this issue by effectively handling products with brief weighing times. They also offer enhanced accuracy and reliable handling, providing consistent weight measurements and product quality, even at speeds of up to 800 products per minute.

Contaminant Detection

Product purity is hugely important in snacks and confectionery and can be challenging due to the high speed and variety of products on the production line. Effective contaminant detection is essential for both unpacked and packed products to maintain consumer safety and brand integrity, and reduce the risk of product recalls. Manufacturers can use a combination of metal detection and x-ray inspection technologies to meet these needs efficiently.

Metal Detection and X-ray Inspection

Metal detectors specialise in detecting metallic contaminants, such as ferrous, non-ferrous and stainless steel particles. They work by generating an electromagnetic field and identifying metal particles that disrupt this field. Metal detection systems can be used at various points on the production line, from the start of production to inspect raw materials, to the end of the line after primary packaging. However, the most popular insertion point in snack foods and confectionery manufacturing is just prior to packaging. Products are weighed using multi-head weighing technology, then drop through the metal detector and into the bag which is then sealed. This technology is ideal for high-speed production environments where rapid, accurate detection of metal contaminants is needed.

Inspection at this point minimises the risk of metal contaminants in the finished product and overcomes any packaging material limitations that may exist at primary or secondary packaging stage. Productivity can be further boosted by technology, such as an Automatic Test System (ATS) from Mettler-Toledo which improves test accuracy and reduces testing duration, whilst also reducing the number of operators required to perform the test from two to one. From a total cost of ownership perspective, metal detection at this Critical Control Point (CCP) is an ideal choice.

In both horizontal and vertical applications, metal detection systems provide efficient and accurate results. Vertical inspection setups, particularly with the use of throat metal detectors in VFFS (Vertical Form Fill Seal) applications, are highly effective for inspecting products like snack foods and crisps. These detectors are installed between the weigher and the bagging machine, allowing free-falling products to be inspected as they move through the system. This method means that foreign body contaminants are identified before packaging, which is especially beneficial in high-speed production environments.

X-ray inspection systems are ideal for detecting a wide range of contaminants in packed products either at the primary or the secondary packaging stage. For x-ray inspection, this may include contaminants such as glass, metal, mineral stones, dense plastics, rubber compounds and even agglomerates - an issue commonly faced by crisp manufacturers. Agglomerates, or clumps of seasoning powder, can form during the manufacturing process and affect product quality by altering taste, texture and appearance.

The x-ray beams penetrate packaging to identify foreign objects. This process is based on density differences. While in-line inspection of single flow-wrapped products is effective for example, end-of-line inspection, such as scanning a full box of chocolate bars, offers additional advantages. It allows for the detection of contaminants, meaning that each box is thoroughly screened for foreign bodies before reaching consumers. This layered inspection process significantly enhances product safety and quality control. Beyond contaminant detection, x-ray systems can also perform a range of integrity checks, such as verifying product shape, measuring mass, detecting missing or broken items and checking proper fill levels, further enhancing quality

control and reducing the likelihood of defective products reaching consumers.

Choosing the technology best suited to a production line depends on the product type and contamination risks. Metal detectors are ideal for the inspection of products before they are packaged or within the primary packaging stage where detecting metal contaminants early can save the manufacturer production costs. X-ray inspection systems are preferred for packed products where detection of a broader range of contaminants is required. They are suitable for packaged products and provide optional quality and integrity checks which can be performed simultaneously, typically at end-of-line.

Cost constraints are a major consideration for manufacturers in this sector, particularly since many snack and confectionery products are sold at low price points, making it challenging to justify investment in high-end product inspection systems. While the upfront costs of metal detection or x-ray inspection may seem high, these technologies can significantly reduce recall-related expenses and potential reputational damage - saving manufacturers more in the long run. In addition, leveraging AI-driven functions, with a focus on sustainability, can further help manufacturers combat rising costs. By optimising inspection efficiency through intelligent algorithms, manufacturers can reduce energy consumption and minimise waste, ultimately lowering operational costs.

Plastic Contamination

In addition to metallic contaminants, the use of plastic moulds in the production process introduces the risk of plastic contamination, especially in confectionery and snack manufacturing, where complex machinery and moulds are often deployed. Plastic contaminants can arise from wear and tear on moulds, broken machinery parts or even packaging materials, making it critical to have robust detection systems. X-ray inspection systems provide an effective solution by identifying plastic foreign objects based on their density, even when the density difference between plastic and the product itself is minimal. While challenging, x-ray systems can be finely calibrated to detect various types of plastic, from dense polypropylene fragments to lighter plastic films, across different product types and applications.

In confectionery products, where the texture and density of the food can vary widely, traditional inspection methods may struggle to catch plastic contaminants. X-ray technology, however, offers higher sensitivity and reliability, meaning that products meet stringent safety and quality standards, minimising the risk of plastic contamination reaching the consumer, and protecting brand reputation.

Robust Testing and Setup Procedures

To check that the metal detection system is fully optimised to detect contaminants, manufacturers can integrate automatic testing systems. Automatic Test System (ATS) from Mettler-Toledo, for example, automates the testing process of metal detectors integrated into vertical form, fill and seal processes which are very common in the manufacturing process for bagged crisps, sweets and nuts. ATS provides the most accurate testing of centreline sensitivity – representing the worst-case scenario for detection – by consistently simulating how contaminants might pass through the very centre of the aperture. This method delivers consistent performance testing and reduces the risk of contaminants going undetected, offering manufacturers greater confidence in product safety.

To help streamline operations and reduce the potential for human error, x-ray inspection technology can automatically set up the inspection of different products and facilitate several changeovers. By automatically adjusting to inspect new products or packaging formats, x-ray systems can make sure that consistent inspection accuracy is achieved by setting the correct detection sensitivity for that particular product.

Both technologies help protect brand integrity, reduce the risk of product recalls and improve operational efficiency, all within fast-paced manufacturing environments.

Equipment Cleaning and Hygienic Design

Accumulation of sugar and flour dust is another common challenge, as it can lead to corrosion and contamination in production equipment. At CCPs in the earlier stages of production, it is important to choose metal detection systems that minimise the escape of good product during the rejection process. Dust-tight seals should be considered as part of the machine specification. Further downstream where goods are inspected on a conveyor belt, the solution is to install inspection technology with ingress protection IP65 and IP69 ratings, which are designed for easy cleaning and to withstand harsh cleaning regimes.

Label Verification and Allergen Management

Increasing regulations, such as [Natasha's Law](#), have made label verification and allergen management critical aspects of food safety. Natasha's Law, introduced in the UK, mandates that all pre-packaged foods for direct sale include a full ingredients list with clear allergen labelling. This regulation aims to protect consumers with food allergies, giving them access to essential information about the products they consume.

Automated vision inspection systems are instrumental in meeting these requirements, as they can accurately verify label content, assisting in compliance and preventing costly recalls and protecting consumers' health. These systems capture high-resolution images of each product's packaging as it moves through the production line. They use advanced algorithms to analyse the images, verifying that the labels contain the correct information, such as ingredient lists and allergen warnings. They can also detect misprints, missing information or incorrect labels.

Data Management in Production

Data management is also integral to modern snack and confectionery production, enabling manufacturers to monitor and optimise their production processes, as well as adhere to audit requirements. They can also play a significant role in boosting productivity through predictive maintenance and real-time analytics. These data management systems enable manufacturers to proactively address production issues, reducing downtime and improving product safety.

With Mettler-Toledo Prodx™ data management software, manufacturers gain real-time data collection and analysis, supporting compliance and quality assurance. The software efficiently tracks and documents product inspection data, which is essential for maintaining product safety standards and optimising operational efficiency.

Conclusion

As the snack and confectionery market continues to boom, manufacturers need equipment that can adapt to new product lines and regulatory changes. Investing in advanced product inspection technologies is essential to maintaining quality at high production speeds, while also future-proofing production lines. With the innovative solutions available, manufacturers can face the challenges head on while upholding product integrity and consumer safety.

Want to Know More?

For more detailed information and insights, download this e-guide on product inspection for the snack and confectionery industry: [Guide to Quality and Safety Inspection of Snacks & Confectionery](#) or visit www.mt.com/pi-snackseguide.

¹ <https://www.statista.com/statistics/1196800/global-savory-snack-market-size/>



 THE AUTOMATIC TEST SYSTEM (ATS) IS A NON-INVASIVE METHOD FOR TESTING GRAVITY-FED AND FREE-FALL METAL DETECTION SYSTEMS.



 THE METTLER-TOLEDO AUTOMATIC TEST SYSTEM (ATS) IS A SIMPLE, COST-EFFECTIVE SOLUTION FOR METAL DETECTORS IN VERTICAL FORM-FILL-SEAL APPLICATIONS.





 ROB STEVENS, MARKET MANAGER AT METTLER-TOLEDO PRODUCT INSPECTION.

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Understanding Young Applicants



Karsten Poppe, Managing Director of Benity GmbH and a recruitment expert, knows the five questions that determine whether a candidate is accepted or rejected:

"The market for apprenticeships has changed fundamentally. What used to suffice is nowhere near enough today. A job advertisement, a poster, or a trade fair booth no longer constitute a strategy. Hope is no substitute for preparation. And simply searching more loudly achieves nothing if companies do not make themselves visible earlier, more clearly, and more credibly. Today, the apprenticeship market is no longer just about sourcing young talent; it is a market driven by decision-making. Young people do not simply apply; they evaluate and compare. Often, the deciding factor is not the profession itself, but the feeling it evokes. The questions are: Do I think I can handle this? Do I fit in there? Will I be taken seriously? Are there people there to support me? Is this a place where I can grow—or am I merely expected to function?"

Feeling Before Fact

"Many companies act as if nothing has changed. They wait until young people are actively looking. Then, they find themselves competing with employers who have long since established an emotional presence. Young applicants do not merely choose a career; they choose an environment where they can envision

growth, security, and a sense of belonging. Simply offering apprenticeship positions is not enough. Companies must develop the competence to be 'training-ready.' This competence needs to be anchored structurally, culturally, and in their communication."

The Five Inner Questions of Young Applicants

"Young people rarely ask these questions openly, yet their decisions hinge on them. Any single one of them can determine whether they are accepted or rejected:

1. *Can I picture myself going there every day?*

This question applies not just to the short term, but to the entire duration of the apprenticeship and beyond.

2. *Will I be supported there, or left to fend for myself?*

Young applicants want to know that there are people who will actively guide them and not let them down.

3. *Are the people there genuine, or is it all just a polished facade?*

Authenticity beats staging. This applies to videos, interviews, and day-to-day life at the company.

4. *Does my work there have meaning, or am I replaceable?*

A sense of purpose fosters commitment, whereas feeling replaceable leads to early dropouts.

5. *Do I have a future there that extends beyond the apprenticeship?*

Permanent employment, development opportunities, and future prospects matter more than clever wording in a job advertisement.

No company answers these questions with a standard apprenticeship webpage filled with requirements, deadlines, and clichés. This is precisely where many businesses make a strategic error."

Why Atmosphere Matters More Than Arguments

"Young applicants do their research online. They vet employers via social media, reviews, videos, acquaintances, and parents—looking beyond just salary and job titles. When comparing two companies that offer similar training, comparable pay, and similar prospects, it becomes clear that other factors often tip the scales. One company provides genuine insights, identifies specific points of contact, and outlines a structured onboarding process. The other remains abstract, generic, and formal. In such cases, the decision almost always favors the first company—not because the facts are better, but because it offers a greater sense of certainty."

A Shift in Perspective

"The most common mistake companies make is asking, 'Why aren't young people applying?' However, the real—and far deeper—question is: 'As a company offering apprenticeships, are we actually clear, visible, and robust enough?' A single measure—such as a school visit, a job advertisement, or a promotional video—cannot solve the fundamental problem. While such actions can support and reinforce what is already working, they can never replace what is fundamentally missing. Therefore, a truly well-conceived apprenticeship strategy does not begin with the question, 'Where can we reach young people?' but rather with, 'Are we actually ready when young people find us?'"

The Lesson: Evaluation Begins Before the Application

"The decision to choose—or reject—a company is often made long before an application is submitted. If businesses only become visible when young people are actively searching, they are usually too late. Other

employers have long since built trust, provided guidance, and established a mental image. To attract apprentices, a company must establish a presence earlier. It needs to showcase real people and honestly state its requirements. Furthermore, it must clearly explain the support available and offer genuine guidance rather than just a glossy image. Forward-thinking employers do not wait for young people to stumble upon them by chance. They build trust early on. They demonstrate what they mean. And they deliver on their promises. After all, recruiting apprentices involves more than just marketing to the next generation; it means becoming an employer that is so clear, reliable, and conducive to growth that young people can envision building their professional identity there. This is the new reality of the apprenticeship market—and an opportunity for companies that understand this and take action."

About Benity GmbH

Founded in 2017 and based in Wildeshausen, Benity is a management consultancy specializing in recruiting, employee retention, and employer branding for small and medium-sized enterprises (SMEs). The company employs a "feel-good strategy" to fill vacancies more quickly, improve onboarding processes, and optimize internal communication and corporate benefits. Benity combines strategic consulting with hands-on implementation, leveraging digitalization, automation, and practical recruiting measures. Its services place a special focus on the care sector; a team of experts in recruiting, processes, and digitalization helps small and medium-sized care providers—among others—address the challenges of the skilled labor shortage through structural improvements.

www.benity.de

About the Author

Karsten Poppe is the Managing Director of Benity GmbH and an expert in recruiting, employee retention, and employer branding. He primarily advises small and medium-sized enterprises in the care sector, combining strategic consulting with practical implementation. His focus lies on digital visibility, efficient recruiting processes, and sustainable employee acquisition and retention.

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 KARSTEN POPPE, MANAGING DIRECTOR OF BENITY GMBH AND RECRUITING EXPERT.

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 ABBILDUNGEN: ADOBE STOCK / PROSTOCK-STUDIO [1]; BENITY GMBH [2]

 "MEET AT THE MACHINE"

Siemens Launches Initiative for Next-Level CNC Productivity



 MEET AT THE MACHINE IS SIEMENS' NEW INITIATIVE DESIGNED TO BRING TOGETHER MACHINE BUILDERS, SOFTWARE AND AUTOMATION TECHNOLOGIES TO ACCELERATE INNOVATION ACROSS THE MACHINE TOOL INDUSTRY AND HELP MANUFACTURERS ACHIEVE PRODUCTIVITY FASTER.

Siemens announced Meet at the Machine, a new initiative designed to bring together machine builders, software and automation technologies to accelerate innovation across the machine tool industry and help manufacturers achieve productivity faster.

[Meet at the Machine](#) provides a framework for Siemens and machine builders to jointly deliver integrated machining solutions that address real manufacturing challenges. The initiative is designed to make manufacturing customers more productive and enhance quality and performance. It brings engineering software, automation hardware and machine expertise together in one solution, helping machine builders deliver differentiated value.

Manufacturers today face increasing complexity, workforce shortages and growing pressure to become productive faster. While advances in software, automation and digitalization continue to create new opportunities, many manufacturers still face challenges connecting those technologies into efficient production

workflows.

Siemens believes the next step in machining innovation is creating a continuous digital thread that connects engineering, programming, virtual validation and execution to deliver next-level productivity starting from the first machine power-on. By improving the flow of data across the part manufacturing lifecycle, organizations can reduce complexity, accelerate ramp-up and create a foundation for continuous improvement.

"Manufacturing truth has always ultimately been at the machine," said Mark Hindsbo, head of Operations Software at Siemens. "By bringing together engineering software, automation hardware and machine expertise, we enable our customers and users to be productive faster, accelerate return on investment and reduce ramp-up time by up to 50 percent."

Built in collaboration with TRAK Machine Tools, the first phase of this initiative is focused on enabling part manufacturers to be productive from day one. It addresses one of the most common challenges manufacturers face when purchasing a new machine: the time required to move from machine delivery to productive machining. The solution combines software, automation and machine expertise into a connected workflow that allows manufacturers to program, simulate and validate production while a machine is still being built.

"When our customers invest in a new machine, their goal is to achieve productivity and business results as quickly as possible," said Steve Pinto, president, TRAK Machine Tools. "Meet at the Machine creates a new model for collaboration focused on customer outcomes, and we are proud to be the first partner helping bring this vision to life."

Traditionally, many programming, validation and training activities begin only after a machine is installed. The new initiative shifts these activities earlier in the process, allowing manufacturers to prepare for production before physical machine delivery and helping reduce ramp-up time.

Through the initiative, Siemens plans to work with machine builders to develop future solutions that address key manufacturing challenges through collaborative innovation.

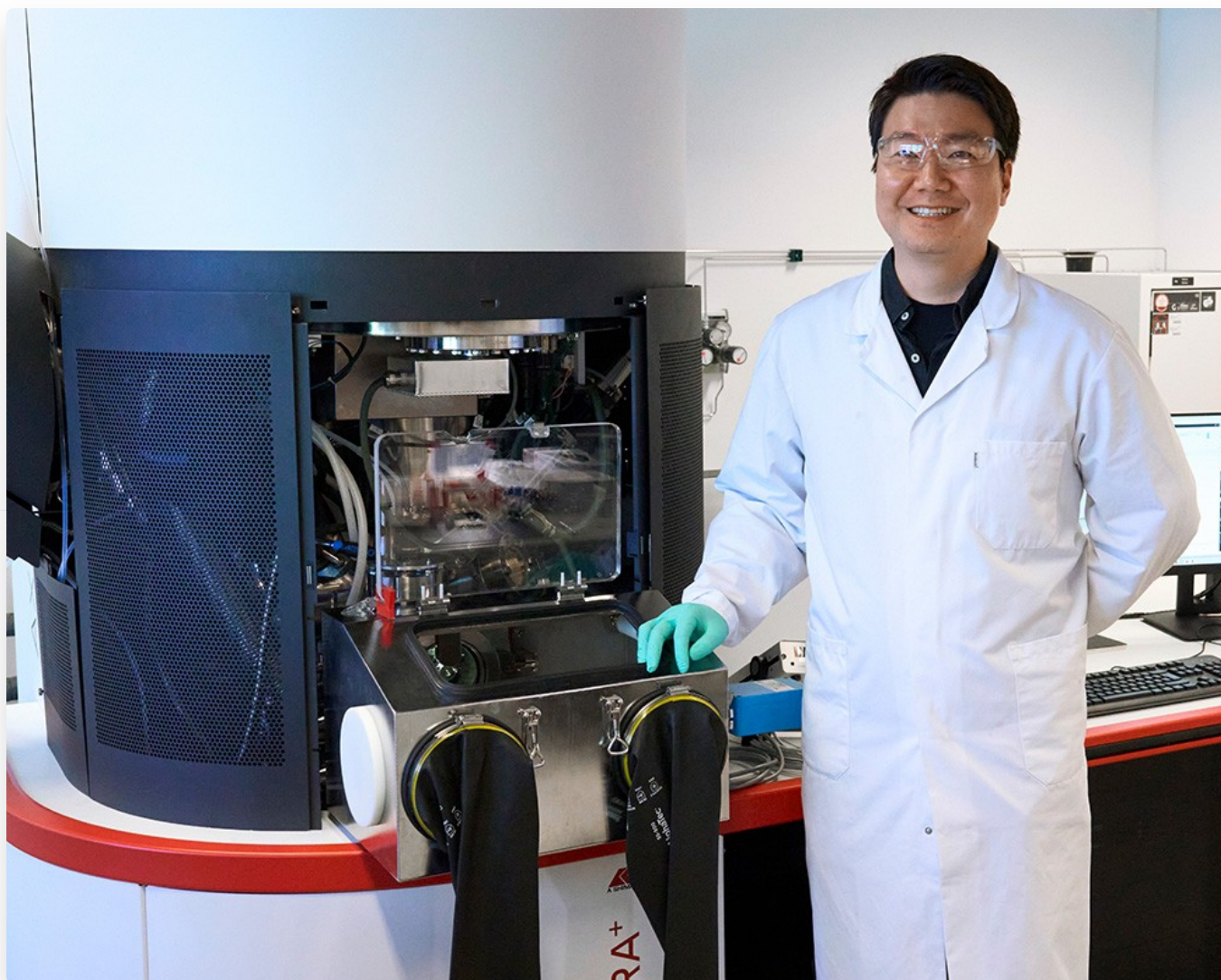
<https://www.siemens.com/imts>

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EDITOR: SBR

IMAGE: SIEMENS

XPS Reveals the Surface Chemistry of Bio-Based Hybrid Materials



 DR. JIYONG KIM USES XPS TO ANALYZE THE CHEMICAL COMPOSITION OF COMPLEX MATERIAL SURFACES AT FRAUNHOFER IAP.

bio-fibre MAGAZINE

Just a few atomic layers at the surface can strongly influence how effectively a material binds pollutants from water or how efficiently a photocatalyst responds to light. Researchers at the Fraunhofer Institute for Applied Polymer Research IAP use X-ray photoelectron spectroscopy (XPS) to investigate the chemical states and interactions at the surfaces and interfaces of bio-based carbon materials and organic-inorganic hybrid materials. Their insights can support the targeted development of functional materials for future industrial applications.

Bio-based materials and related hybrid systems are being explored for a wide range of applications, including water treatment, catalytic processes, electrochemical devices and functional coatings. They combine natural raw materials with inorganic materials, bringing together the properties of both material classes.

The function, reactivity and stability of bio-based hybrid materials can depend strongly on the chemical environments present at their surfaces and interfaces. Many conventional analytical methods, however, provide only limited access to these processes. For materials development, this means that the causes of differences in performance, aging effects or unexpected material behaviour often remain unclear.

Coffee grounds, orange peels and complex surfaces: what XPS tells about their chemistry

In a series of joint studies led by the Materials Chemistry research group of Professor Andreas Taubert at the University of Potsdam, bio-derived carbon and hybrid materials were developed and evaluated for water-purification applications. Fraunhofer IAP contributed detailed XPS characterization, focusing on surface composition, chemical states and interfacial interactions. Spent coffee and orange peels served as renewable starting materials for producing biochar, which was subsequently combined with clay minerals and metal oxides.

The key question addressed by the XPS analysis was how the formation of these bio-based hybrid materials and their combination with inorganic components changed the chemistry of their surfaces and interfaces. To find answers, Dr. Jiyong Kim, an expert in surface analysis at Fraunhofer IAP, investigated how thermal treatment and hybrid formation changed the surface and interfacial chemistry of the organic-inorganic hybrid materials using XPS). Here, the material surface is irradiated with X-rays, and the energy of the emitted photoelectrons is measured.

"XPS is like an extremely fine surface scanner. It allows us to read the top 1 to 10 nanometers of a material like a chemical map. Another advantage is that the analysis requires only minimal sample preparation and does not require the material to be dissolved or chemically digested," says Kim.

Biochar: what makes its analysis so challenging

Materials derived from natural raw materials are chemically far more complex than conventional laboratory chemicals. During the thermal treatment of biomass such as coffee grounds or orange peels, for example, numerous reactions take place simultaneously. This produces carbon materials with heterogeneous and sometimes unexpected surface chemistry that cannot be described by a single chemical structure. XPS can differentiate these complex surfaces and draw conclusions about how a material was formed and which properties may be relevant to its subsequent application.

In biochar derived from coffee grounds, XPS showed that thermal treatment reorganized the carbon at the surface. The result was a more carbon-rich, graphite-like structure that nevertheless remained chemically heterogeneous and rich in defect sites. Such surface properties can promote interactions with pharmaceutical compounds, dyes and other organic pollutants, making them particularly relevant for materials used in water purification.

"A detailed understanding of the exact chemistry in a material helps us to very accurately understand not only the material composition but also the individual changes that occur in a material once it is used in an application like water remediation or in an electrochemical device. These changes are often crucial, yet very hard to detect using other methods," Taubert explains.

XPS provides insights into the chemistry at organic–inorganic interfaces

In bio-based hybrid materials, organic and inorganic components are interconnected at very small length scales. What happens at their interfaces can have a major influence on the material properties that develop later.

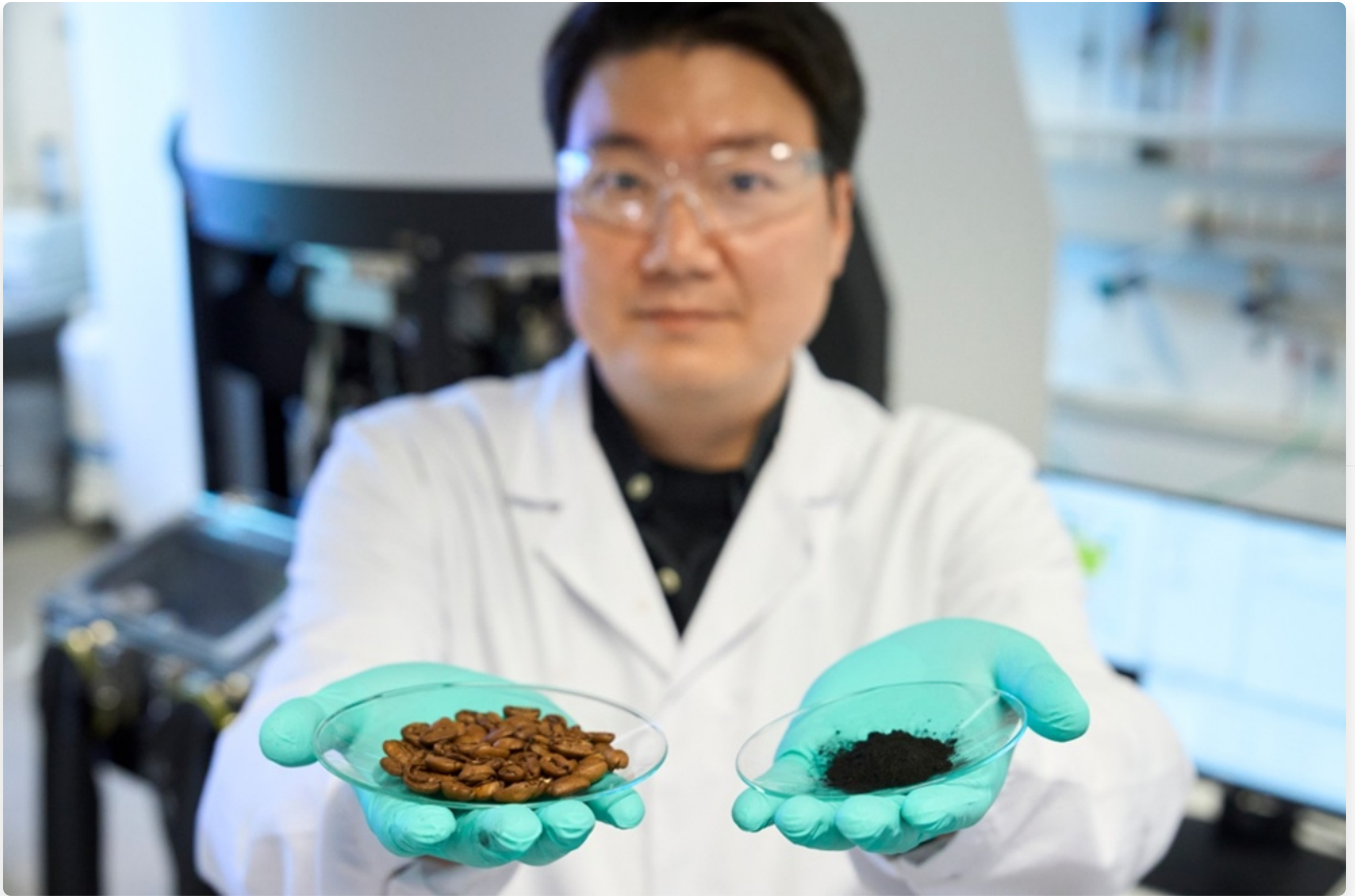
"With hybrid materials, it is not enough to know which elements are present. What matters is how the organic and inorganic components interact and whether new chemical environments form at their interfaces. XPS allows us to make these interactions visible," explains Kim.

In hybrid systems consisting of orange-peel biochar, clay and titanium dioxide, the analyses showed that the organic and inorganic components form chemical bonds at their interfaces during thermal processing, involving titanium, oxygen, carbon and aluminum. In nitrogen-modified photocatalysts, XPS also helped distinguish nitrogen incorporated into titanium-containing inorganic structures from residual nitrogen-containing organic species. Such materials can not only bind pollutants but also use their photocatalytic properties to break them down with the help of light.

Surface analysis supports the development of bio-based materials

Using XPS, Fraunhofer IAP supports companies and research partners in gaining a targeted understanding of the complex surface chemistry of bio-based materials and identifying the causes of differences in performance. This can include analyzing batch-to-batch variations, ageing processes, surface modifications and chemical interactions with pollutants and other molecules. The resulting insights can help guide the systematic optimization of material formulations and manufacturing processes and contribute to the development of robust and reproducible materials for industrial applications. As industrial interest in renewable raw materials continues to grow, these findings also highlight opportunities for further collaborative research on bio-based carbon materials, catalysts, coatings, polymer composites and other materials with complex surfaces and interfaces.

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 COFFEE GROUNDS ARE TURNED INTO BIOCHAR: XPS HELPS US UNDERSTAND THE CHEMICAL CHANGES THAT OCCUR ON THE SURFACE AS A RESULT OF THERMAL TREATMENT.

 EDITOR: SBR

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